

ABSTRACT

THESIS: Yellow perch *Perca flavescens* gonadal development and spawning in the Indiana portion of Lake Michigan during 2009

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Yellow perch *Perca flavescens* spawning was evaluated in southern Lake Michigan during 2009 to determine the timing, location, and extent of spawning activity. Maturity state (i.e., pre-spawn/post-spawn), gonadosomatic index (GSI), mean length, length frequency distributions, and sex group proportions were also evaluated. No egg skeins were discovered during the study. The GSI decreased during the duration of the spawn. Spent females were larger than pre-spawn females. Following the spawning season another assessment was conducted to determine whether differences existed in the spawning and post-spawning population demographics. Abundance, length frequency distributions, proportions, and relative stock density were evaluated. Abundance of fish in the post-spawning period increased six-fold and paralleled a shift in length frequency distribution to larger median size. An increase in the proportion of females and relative stock density from the spawning period to post-spawning period was discovered. These data infer adult fish were spawning elsewhere, and then migrating to Indiana.